FEI Quanta 400F ESEM

Instrument capabilities:

1. Instrument specifications:
   a) Accelerating voltages: 2–30 kV
   b) Schottky FEG emitter
   c) SEI resolution (actual) at 30 kV: ≤ 3 nm at 1330 Pa; ≤ 10 nm at 2660 Pa
2. Operating modes: SEI; BEI; specimen chamber pressures from high vacuum to 2660 Pa; various specimen chamber gases (air & water vapor standard; Ar, N_2 and He also tested; other gases may be possible); XEDS (Be window – no elements below Na); telepresence.
3. Specimen stage:
   a) 5-axis motorized
   b) Maximum sample size: 100 x 100 mm (XY)
   c) Heating (≤ 1770 K)
   d) Peltier-cooled (248 K to 328 K)

Typical experiments (examples):

- Imaging of insulating/dielectric materials
- Imaging biomaterials and polymers at high water vapor pressures
- *In situ* materials processing
- XEDS mapping and spectrum imaging
- XEDS detector development